## **CLAIMS**

## We claim:

1. A method of reducing film growth rate when growing a carbon- or boron-doped silicon film or silicon-germanium film, comprising: carbon of boron-doping while supplying a silicon precursor and optionally a germanium precursor to a substrate, at reduced pressure of about 0.1 to 100 millitorr.

- 2. The method of Claim 1, including supplying germanium precursor to the substrate.
- 3. The method of Claim 1, wherein the film has a dopant content of about 1  $\times 10^{17}$  to 1  $\times 10^{21}$ / cm<sup>3</sup>.
- 4. The method of Claim 1, wherein the doping is at a temperature of less than 800°C.
- 5. A method according to claim 1, wherein the dopant is carbon.
- 6. A method according to claim 2, wherein the dopant is carbon.
- 7. A method according to claim 6, wherein the carbon doping is by a carbon precursor supply that is a single source.
- 8. A method according to claim 2, wherein the film has a germanium content of 1 to 30% by weight.

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- 9. A method according to Claim 1, wherein the silicon precursor is silane supplied at a partial pressure in a range of about 0.1 to 10 millitorr.
- 10. A silicon or silicon-germanium film doped with carbon or boron wherein the dopant profile is spiked.
- 11. A film according to Claim 10, wherein the film is a silicon film.

12. A film according to Claim 10, wherein the film is a silicon-germanium film.

- 13. A film according to Claim 12, wherein the film has a dopant content of about  $1 \times 10^{17}$  to  $1 \times 10^{21}$ / cm<sup>3</sup>.
- 14. A transistor comprising a silicon-germanium-carbon layer with a carbon content of about  $1 \times 10^{17}$  to  $1 \times 10^{21}$ / cm<sup>3</sup>.

15. A method of growing a film without sharp pressure transitions, comprising:

carbon of boron-doping while supplying a silicon precursor and optionally a germanium precursor to a substrate, at reduced pressure of about 0.1 to 100 millitorr.

Musz